

WHAT IS MICROPENIS & HOW TO DEAL?

BY

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AGENDA

- 1- Definition & types .
- 2- Penile development & growth
 - intrauterine
 - postnatal
- 3- Causes of micropenis.
- 4- Normal penile measurements .
- 5- What is micropenis ?
- 6- incidence of micropenis.
- 7- Inconspicuous Penis
- 8- Problems associated with Micropenis
- 9- How to deal with micropenis?



1- Definition & types of micropenis .

Definition

- The term micropenis includes a range of congenital & acquired conditions that result in an abnormally short penis & can be associated with both:
 - functional (related to sex & voiding)
 - psychological problems

TYPES OF MICROPENIS

- CONGENITAL

- 1-Isolated micropenis (**true micropenis**)

Occurs after the 12th week

due to: ↓ gonadotropin → ↓ testosterone

- 2- Micropenis accompanied by
(hypospadias &or undescended testes)

due to: testosterone defect






- Inconspicuous Penis

2-Penile development & growth

-intrauterine

-postnatal

Penile development (organogenesis) (8th -12th)

- .At the end of 8th week
the bipotential gonadal  testis
- Under the effect of maternal
CGH (placenta) on the testis
- its Leydig cells  testosterone
- its Sertoli cells  MDI
- Testo.  DHT  PENILE
differentiated
completely by 12weeks gestation

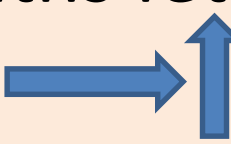
Penile growth (2nd -3rd trimesters)

- Fetal androgen are high between(8-24 weeks)
- Its peak (14-16 weeks)
- Penile growth 20mm.from week 16-38
- True micropenis must result from hormonal abnormality that occurs after 12week of gestation

INTRAUTERINE DEVELOPMENT OF THE PENIS

- From 8th to 12th organogenesis
(penil formation)
- During 2nd & 3rd trimesters penile growth

Postnatal GROWTH

- Postnatal 1st 6months fetal pituitary&testes hormones increase  test. Vol. & penile length
- The peak of testosterone 1st to 3rd months
- from(4-6months) decrease to prepubertal level (Leydig celles) not active
- So Penile growth during childhood is not androgen dependent
- However the penis **doubles in length &diameter** between ages of 6months & puberty
-

- **3- Causes of micropenis.**

Causes of micropenis

- **1-Insufficient testosterone secretion:**
 - Primary hypogonadism
eg. Anorchia
klinefelter syndrom
 - Secondary hypogonadism
Hypogonadotrophic hypogonadism
eg. Kallman syndrome

- **2-Testosterone activation defect**
 - androgen receptors defects
(incomplete form)
 - 5-alpha reductase deficiency
(incomplete form)
- **3-Developmental abnormalities**
eg. penis agenesis
- 4- idiopathic**

ALSO

- Several homeobox genes defects affect penis and digit size with no detectable hormone abnormalities.
- Intrauterine exposure to certain estrogen drugs like diethylstilbestrol (DES) lead to various genital abnormalities eg. micropenis .
- Exposure to uncontrolled domestic pesticide use increases the likelihood of newborns with a micropenis and/or other genital malformations

- **4- Normal penile measurements .**

Normal penile measurements .

- It differs:
 - from country to country &
 - from race to race

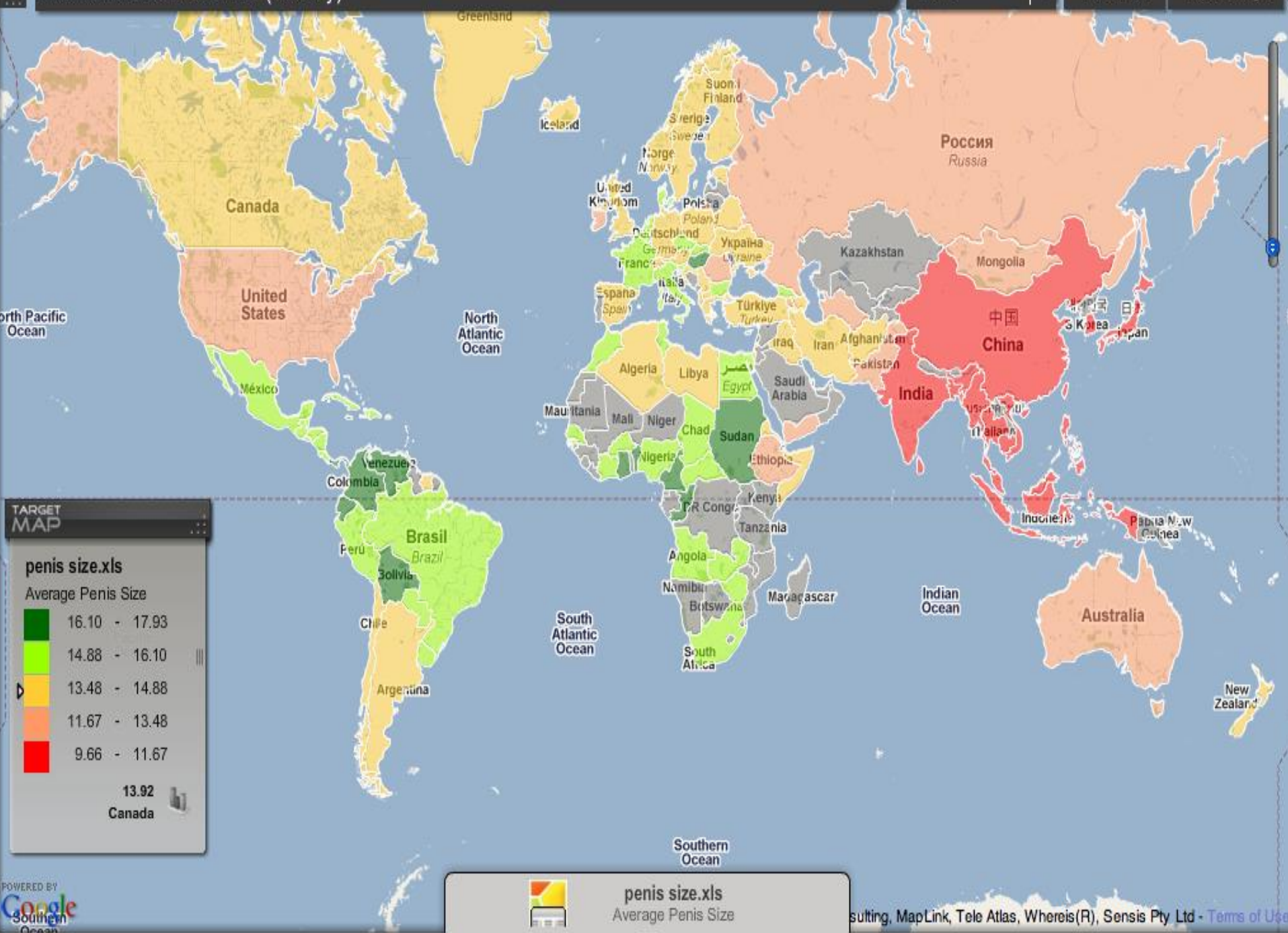


The Penis Size Worldwide (country)

Normal

Fullscreen

Export Image



The mean of normal flaccid penis length

- **at birth** is between (2.75 – 4 cm) 4 cm (1.6 in)
and the changes very little until puberty, when there is marked growth

BJU International (2007)

- **In adults** is to be 8.9 cm (3.5 inches)

The Journal of Urology (1996)

- **The Flaccid penis length is a poor predictor of erect length**

The mean of normal erectile measurements

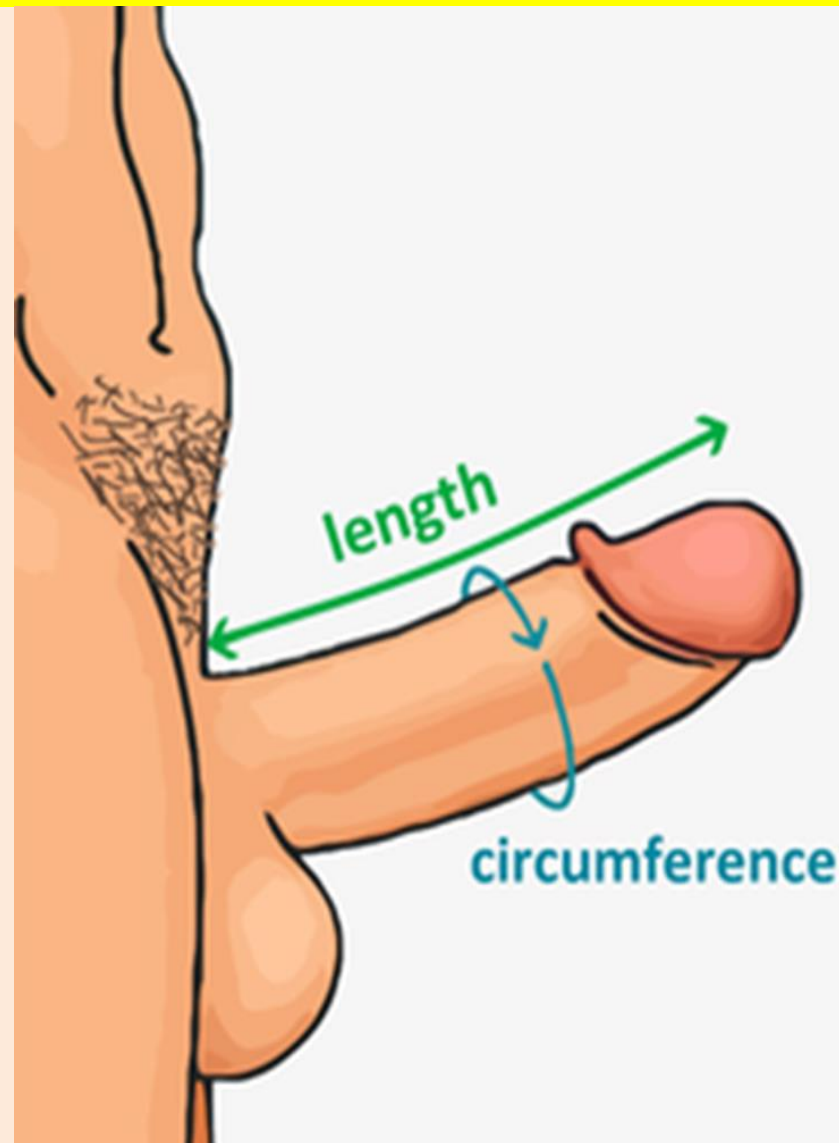
- the mean length is approximately 13.12 ± 1.66 cm (5.17 ± 0.65 in).

BJU International (2015)

- the average circumference 12.3 cm (4.8 inches) ,

while its average width is 4 cm (1.5 inches)

Int N J of Impot Res. (2008)



5- What is TRUE Micropenis ?



Source: [photos.com](https://www.photos.com)

How to measure penile length



(SPL) Stretched penile length
SPL is measured from the pubis
to the tip of the stretched penis



**A modified syringe to be used for
measuring penile length**

Micropenis in a newborn **SPL** <2cm



MICROPENIS



Infantile less
than <2cm



Adult smaller
than(<7cm).



Adults Micropenis

- Erect penile length of at least 2.5 standard deviations smaller than the mean penile length
- OR
- smaller than about 7 cm ($2\frac{3}{4}$ in) for an adult when compared to an average erection of 12.5 cm (5 in)
 - NB.
in a patient with normal internal and external male genitalia.

6- incidence of micropenis.

THE INCIDENCE

- The incidence of micropenis in USA IS 15/100.000

(J Urol 2005)

- Micropenis is condition affects 0.6% of men.

Kinesy Institute (2009)

- USA in the period of 3 years (1997-2000)

The length of the erected penis

- <9cm is 5% of American males
- >20cm is 1% American males
- between 9-20cm is 94% of American males

(J Urol 2005)

- **7- Inconspicuous Penis**

Inconspicuous Penis

- This term includes all short penile shaft (micropenis) secondary to abnormalities of the investing structures as in:
 - 1-buried penis in obese
 - 2-trapped penis.
 - 2-webbed penis



(J Urol 1986)

Buried penis in an obese child

- Prepubertal obese Children with a micropenis is caused by the pressure of the prepubic fat on the penis



true penile structure
can be revealed by
pressing the
surrounding fatty
tissue inwards

Buried penis in obese





“Trapped penis” in obese patient

It is the result of excessive surrounding due to the cohesion between the scrotal and penile skin.



“Trapped penis”

- Penis is trapped after radical circumcision in childhood



Trapped penis in adult



excessive surrounding



radical circumcision

“Trapped penis”

Suprapubic fat pads surrounding the penis in the absence of additional skin for the shaft



Trapped penis(adhesion of penile skin to the glans)



Webbed penis



- The skin connecting the penis to the front side of the scrotum not at the penoscotum

Common clinical presentation

- **Most 8- 14 year-old boys** referred for micropenis do not have the micropenis . Such conditions are usually explained by one of the following:
 - **a penis concealed in suprapubic fat**
(Buried & or trapped penis).
 - **a large body and frame for which a prepubertal penis simply appears too small.**
 - **delayed puberty**

8- Problems associated with Micropenis

Problems associated with Micropenis

- **Difficulty in :urinating and
:sexual intercourse.**
- **Some have a low sperm count.**
- **Psychologically:**
 - many have very low self-esteem
 - some even suffer from depression.

Micropenis can cause anxiety

- **The parents**

may worry about future sexual & reproductive functions of their children .

- **Young boys**

with micropenis might have the fear of discovery by their friends this lead to depression & anxiety

9-HOW TO DEAL WITH MICROPENIS?

HOW TO DEAL WITH MICROPENIS?

- **Medical ttt.**
- **Surgery for micropenis.**
- **Psychological support**

Medical ttt.

- Testosterone is effective in treating micropenis due to testosterone deficiency.
- One or two courses of 4 doses testosterone cypionate or enanthate injections
(25 mg) / 3-week
in infancy or childhood resulted in increase in penis sizes to reach the mean for age.
- Topical testosterone application is effective during infancy & childhood (5% cream for one month).

the early application of testosterone allows for penile androgen receptor concentration to increase.

- This early ttt. primes the penis for later growth during puberty
- There is a natural decrease in androgen receptors during the early adulthood period, so testosterone treatment for adult men with a micro-penis yields no penile growth .

(Urology. 2007)

- Infants with other hormonal deficiencies (growth hormone deficiency, hypothyroidism, adrenal insufficiency) should receive appropriate hormonal replacements.
- Infants with micropenis due to PAIS treated with topical dihydrotestosterone (4-month course of daily gel application).

- **Medical ttt. For infants & childrens :**

- Testosterone (im.&topical)

- DHT gel

- Recombinant CGH & FSH

- **Medical ttt. ForAdults**

Adults with micropenis due to idiopathic hypogonadotrophic hypogonadism treated by intramuscular injections of 1,500 IU hCG 3/w for 2months improved

Surgery for micropenis

- **Penile lengthening:**
 - suspensory ligament dissection
 - Phalloplasty skin flaps & prosthesis.
 - abdomino/pubopelvic liposuction.
- **Girth enhancement:**
 - injection of autologous fat
 - adepose tissue transplantation
 - venous graft(g.saphenous vein)

Psychological support

- The adult patients with micropenis reported dissatisfaction with the appearance of their penis while the majority have normal sexual identities & function.

(Hatipoglu , et al,2013).

- Therefore great care when selecting men for surgery since there is the danger that a small but functioning penis will be changed to large but inert one.

(Woodhous,et al,2012)



Micropenis & one testes (Medical records)
"Hitler's Last Day: Minute by Minute,"
(Short Books Ltd, 2015)

